NAVAL SAFETY CENTER
EST. 1951

RADM Mayer

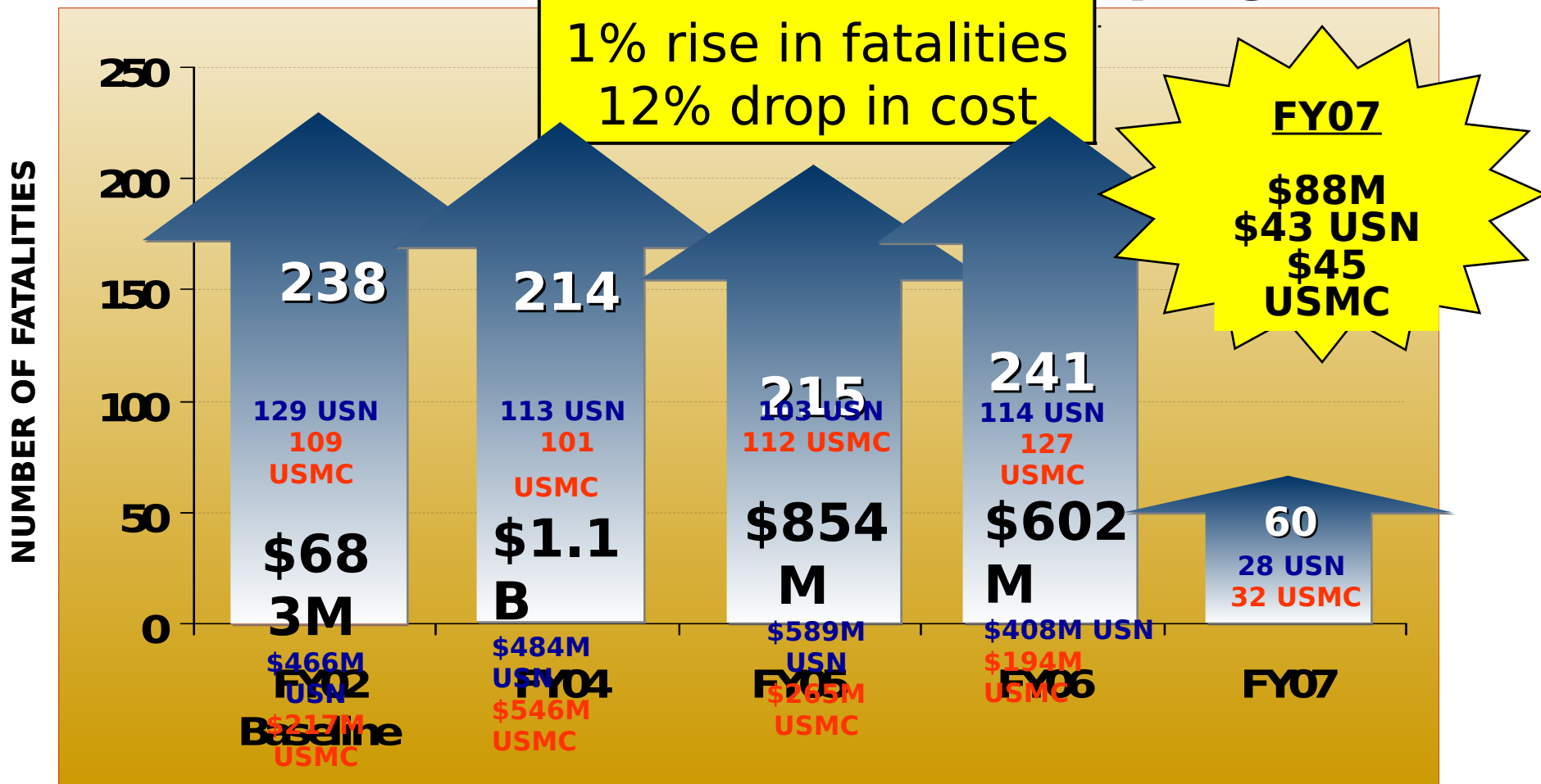**Naval Safety Center**

01-28-06   C   76
23:14:28   29

149   05200   15

Mishap Reduction Campaign

From FY02 to FY06:
1% rise in fatalities
12% drop in cost

FY07

$88M
$43 USN
$45 USMC

NUMBER OF FATALITIES

250
200
150
100
50
0

238
129 USN
109 USMC
$683M
$466M USN
$217M USMC

FY02
Baseline

214
113 USN
101 USMC
$1.1B
$484M USN
$546M USMC

FY04

215
103 USN
112 USMC
$854M
$589M USN
$265M USMC

FY05

241
114 USN
127 USMC
$602M
$408M USN
$194M USMC

FY06

60
28 USN
32 USMC

FY07

ENDSTATE GOAL IS ZERO!

NSC Data: 29 Jan 0

ASC February 2007

3

Navy and Marine Corps

Cost

AVIATION
$513M

Shore/Ground OpMV
$33M

Afloat
$18M

PMV
$26M

Recreation
$12M
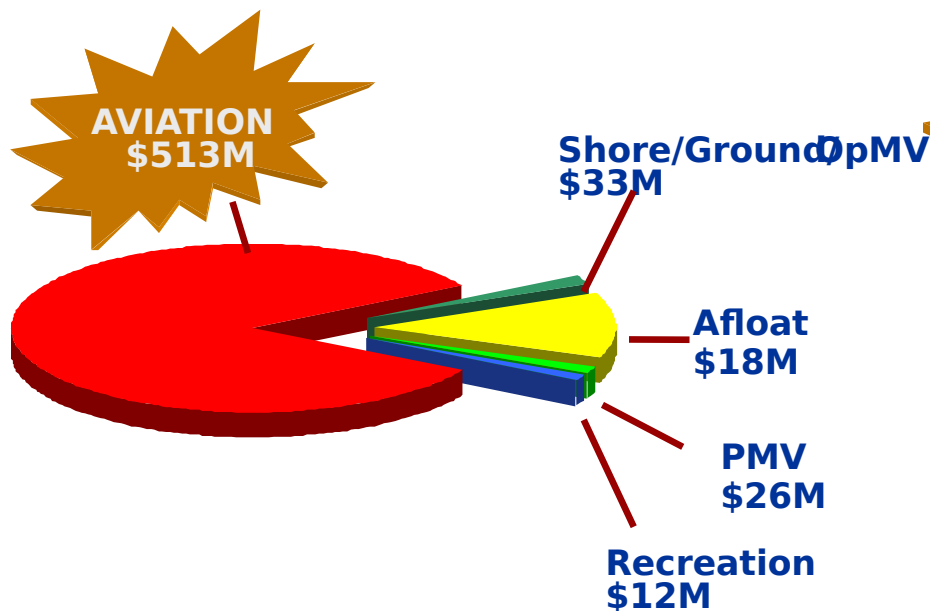
Total Cost: $602M

Fatalities

PMV
144 (60%)

Recreation
26

Aviation
21

Shore/Ground OpMV
49

Afloat 1

Total Fatalities: 241

ASC February 2007

4

THE SECRETARY OF DEFENSE
1000 DEFENSE PENTAGON
WASHINGTON, DC 20301-1000

JUN 22 2006

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
COMMANDERS OF THE COMBATANT COMMANDS
SERVICE CHIEFS

SUBJECT: Reducing Preventable Accidents

I have set some very specific mishap reduction goals for the Department to achieve. My congratulations to those who are progressing toward their respective goals, but others are not. We must rededicate ourselves to those goals – and achieve them.

Too often we excuse mishaps by citing the difficult circumstances in which we operate. We have trained our men and women to operate safely in very trying conditions. There is no excuse for losing lives given proper planning, attention to detail, and the active involvement of the chain of command.

Accountability is essential to effective leadership. I expect all the Department's leaders, from the Commander to the first line supervisors, to be accountable for mishaps under their watch. We simply will not accept status quo.

If we need to change our training, improve our material acquisition, or alter our business practices to save the precious lives of our men and women, we will do it. We will fund as a first priority those technologies and devices that will save lives and equipment. We will retrofit existing systems, and consider these devices as a "must fund" priority for all new systems. We can no longer consider safety as "nice-to-have."

I want to hear what you are doing to improve your safety performance and I want to see the results of your actions.

OSD 09959-06

There is no excuse for losing lives... I want to see the results of your

NAVAL AVIATION HISTORY

ASC February 2007

Naval Aviation Mishap Trend

Mishap rates per 100,000 flight hours

Current Trend

17 aircraft destroyed in 2006 including 4 Helos

FY06 Goal: 1.14

The Real Problem...

FY05: 2.24

USN/USMC, FY96-06

96 97 98 99 0 01 02 03 04 05

ASC February 2007   8

CLASS A FLIGHT MISHAPS

Legend:
- Mishap Numbers
- Mishap Rate
- FY07 Mishap Ceiling

Bar values by fiscal year:
- 97: 15
- 98: 27
- 99: 9
- 00: 20
- 01: 14
- 02: 21
- 03: 26
- 04: 12
- 05: 13
- 06: 14
- 07: 1
- 08: 4

30 Jan 07   30 Jan 06
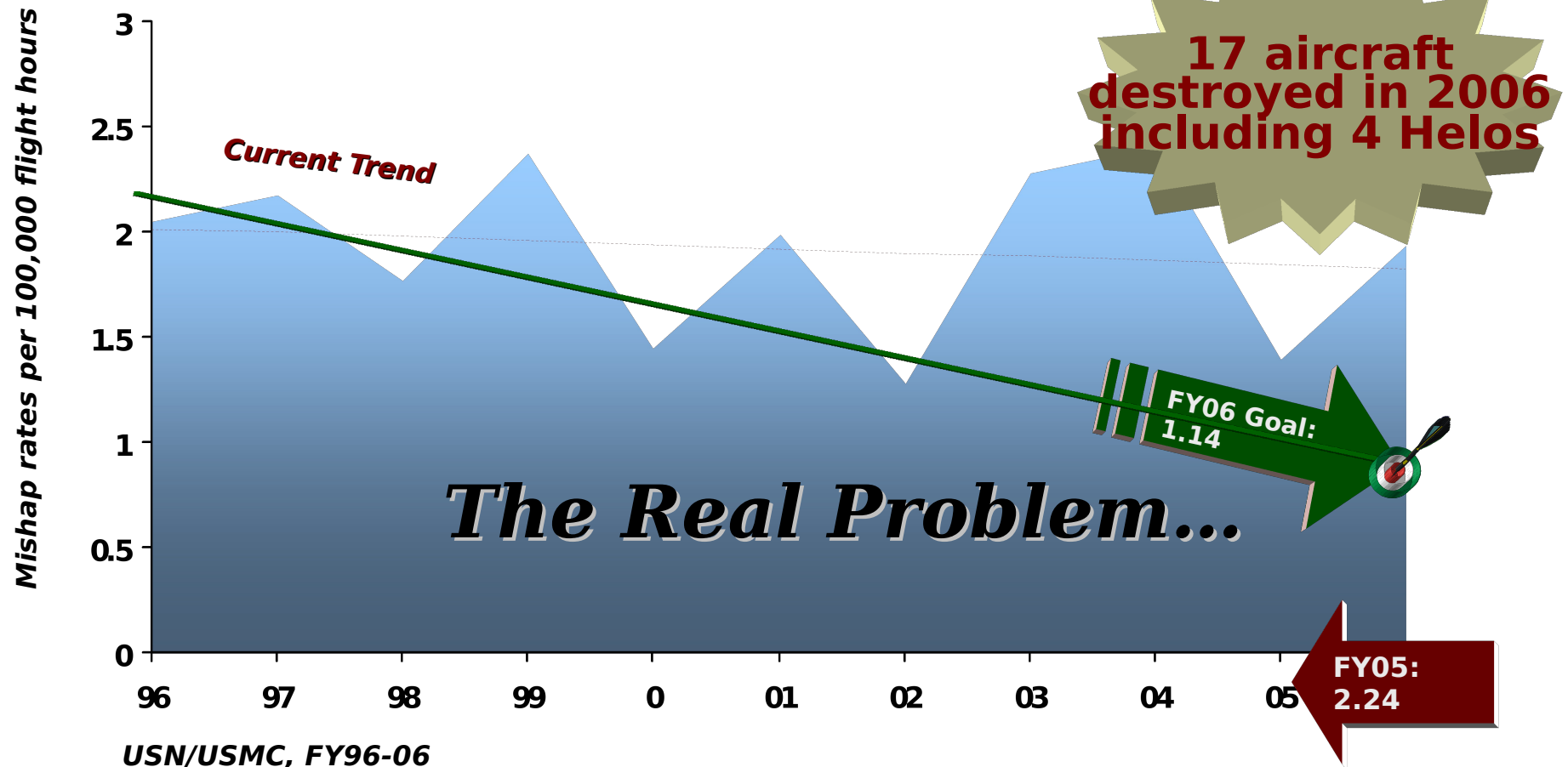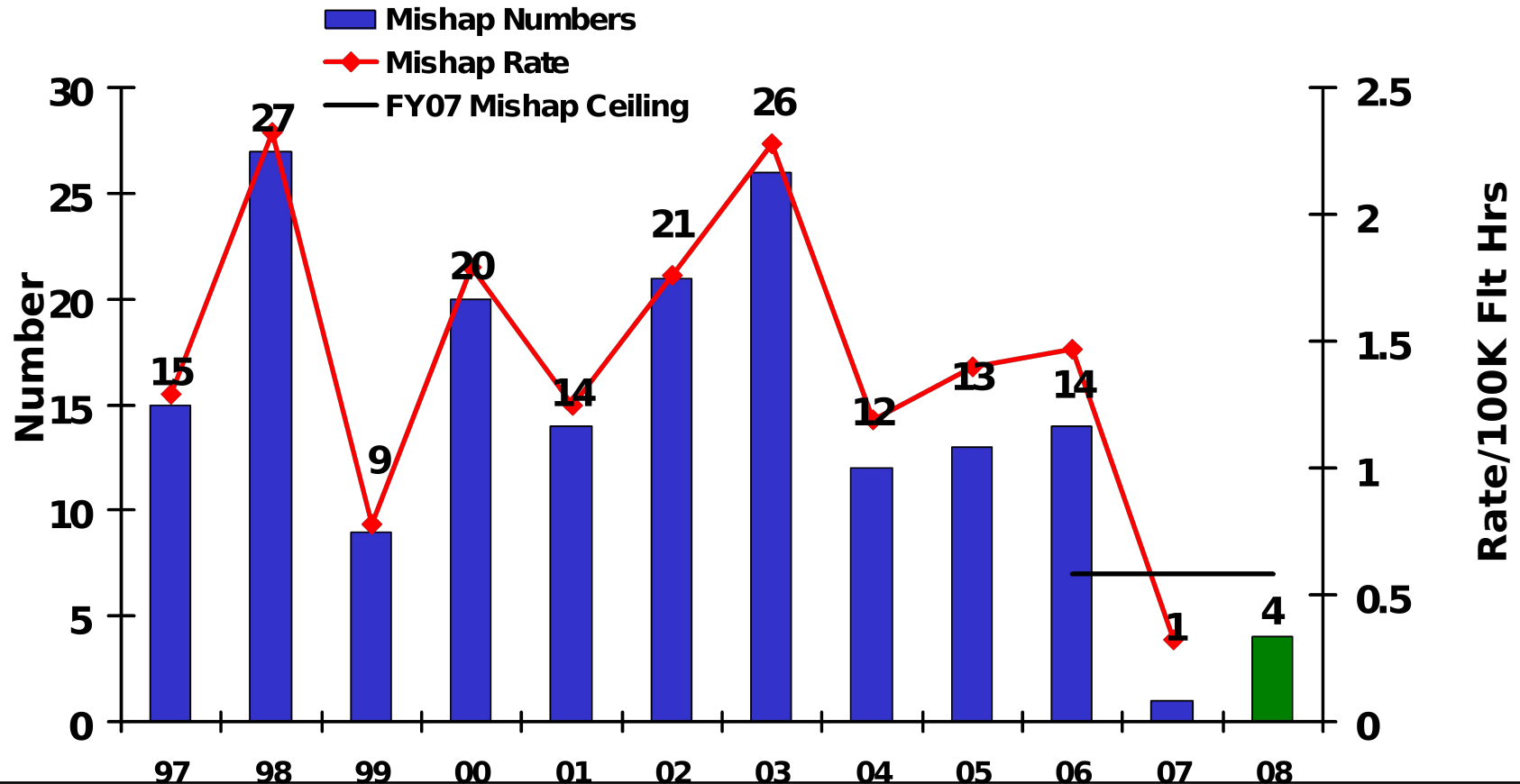
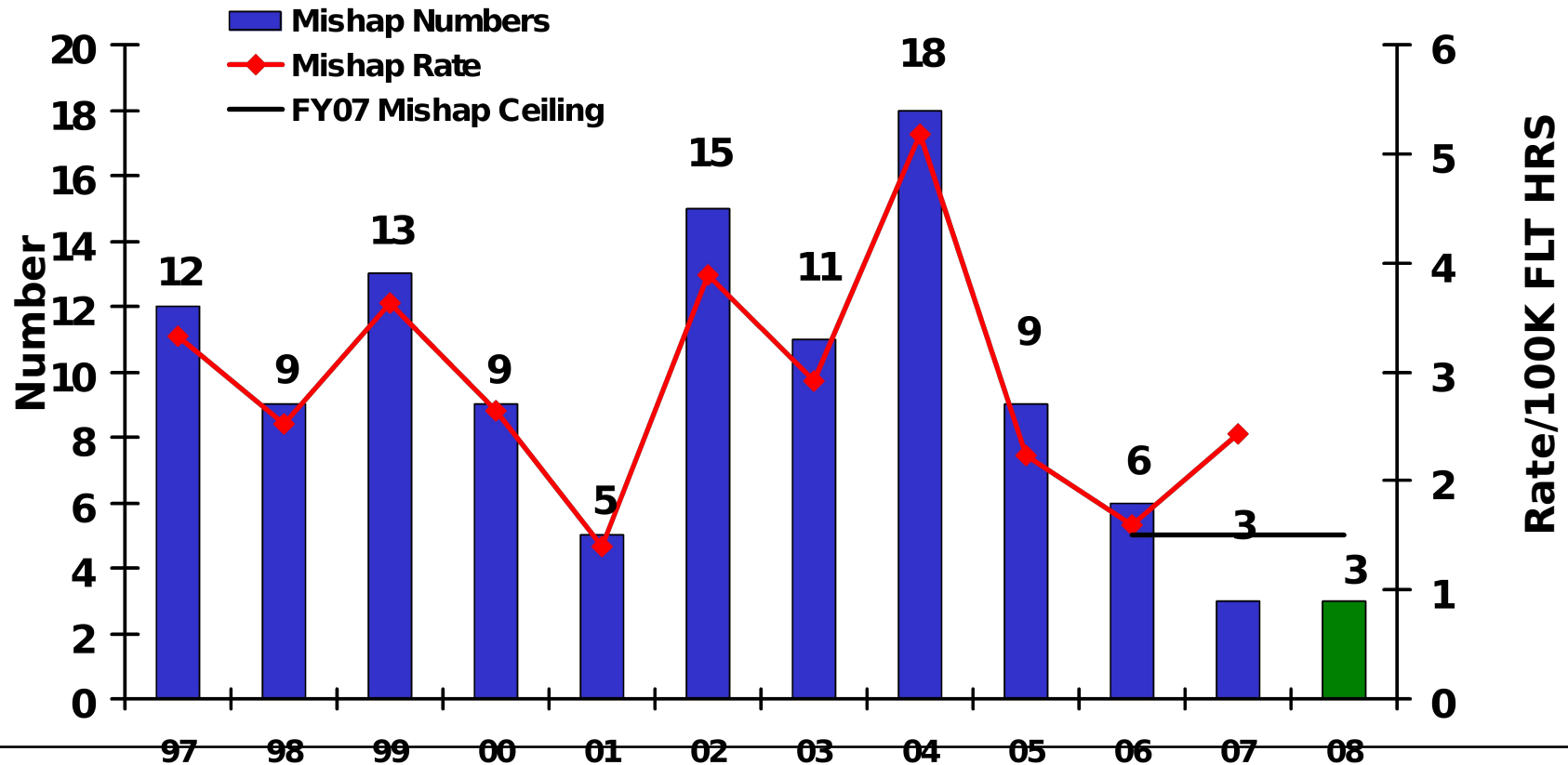CLASS A FM/FM RATE FY COMPARISON: 1/ 0.32   7 / 2.26

FY06 MISHAPS/MISHAP RATE: 14 / 1.47

10-YEAR AVERAGE (FY97-06) MISHAPS/MISHAP RATE: 17.1 / 1.56

ASC, February 2007

CLASS A FLIGHT MISHAPS

Chart legend:
- **Mishap Numbers** (blue bars)
- **Mishap Rate** (red line)
- **FY07 Mishap Ceiling** (black line)

Left axis: **Number** (0–20)
Right axis: **Rate/100K FLT HRS** (0–6)

Bar values by fiscal year:
- 97: 12
- 98: 9
- 99: 13
- 00: 9
- 01: 5
- 02: 15
- 03: 11
- 04: 18
- 05: 9
- 06: 6
- 07: 3
- 08: 3

X-axis labels: 97 98 99 00 01 02 03 04 05 06 07 08

30 Jan 07   **30 Jan 06**

CLASS A FM/FM RATE FY COMPARISON: 3 / 2.43   1/ 0.82

FY06 MISHAPS/MISHAP RATE: 6 / 1.59
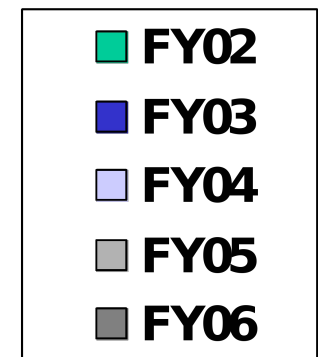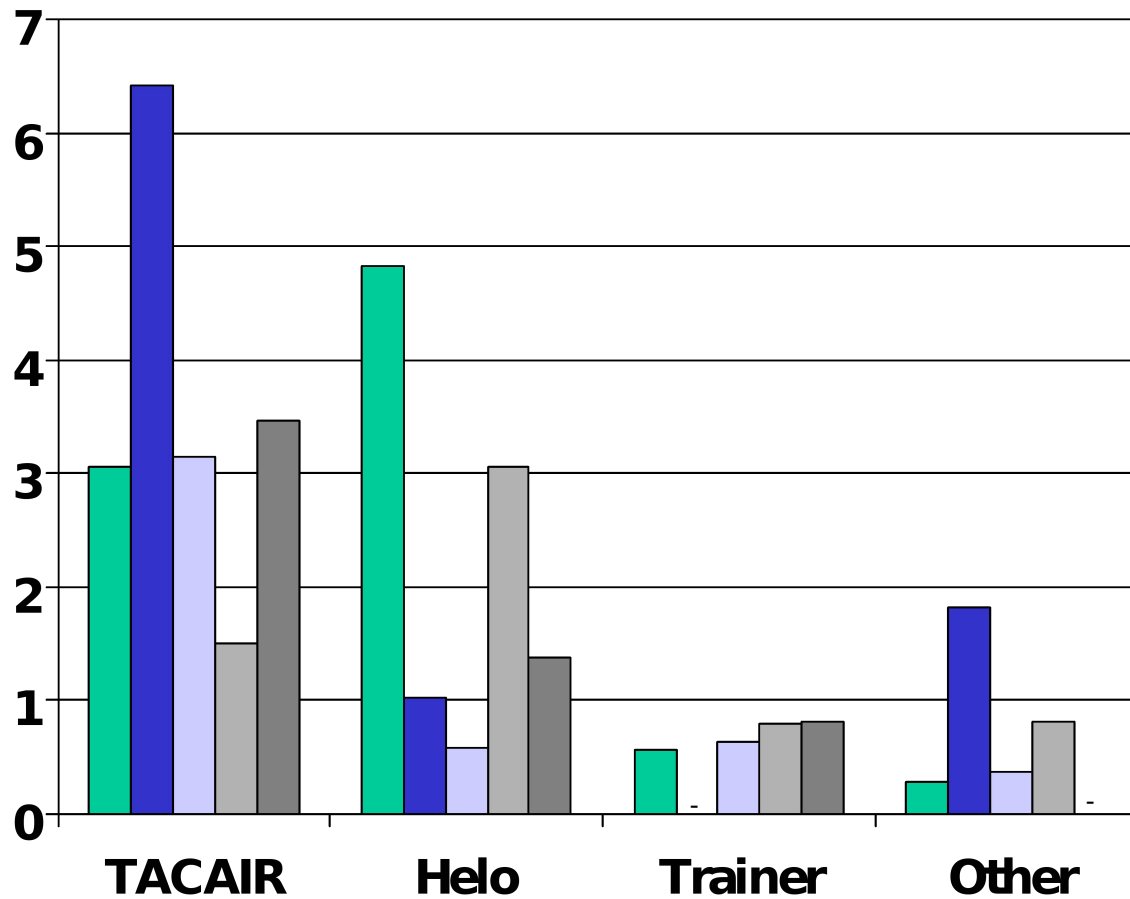
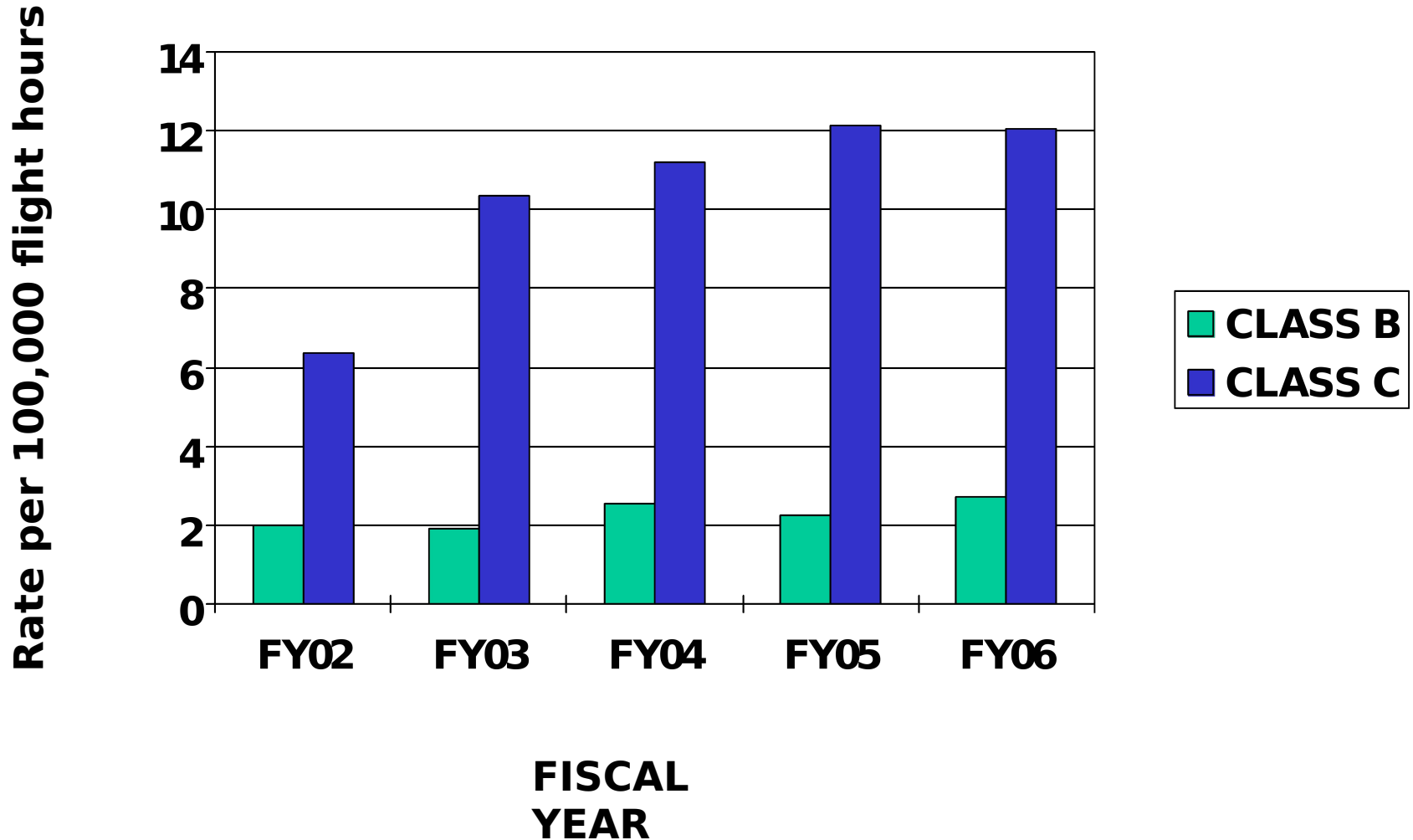10-YEAR AVERAGE (FY97-06) MISHAPS/MISHAP RATE: 10.7 / 2.92

ASC, February 2007

CLASS A FLIGHT MISHAP RATE

AVIATION CLASS B/C MISHAP RATE

AVIATION HAZARD REPORTS
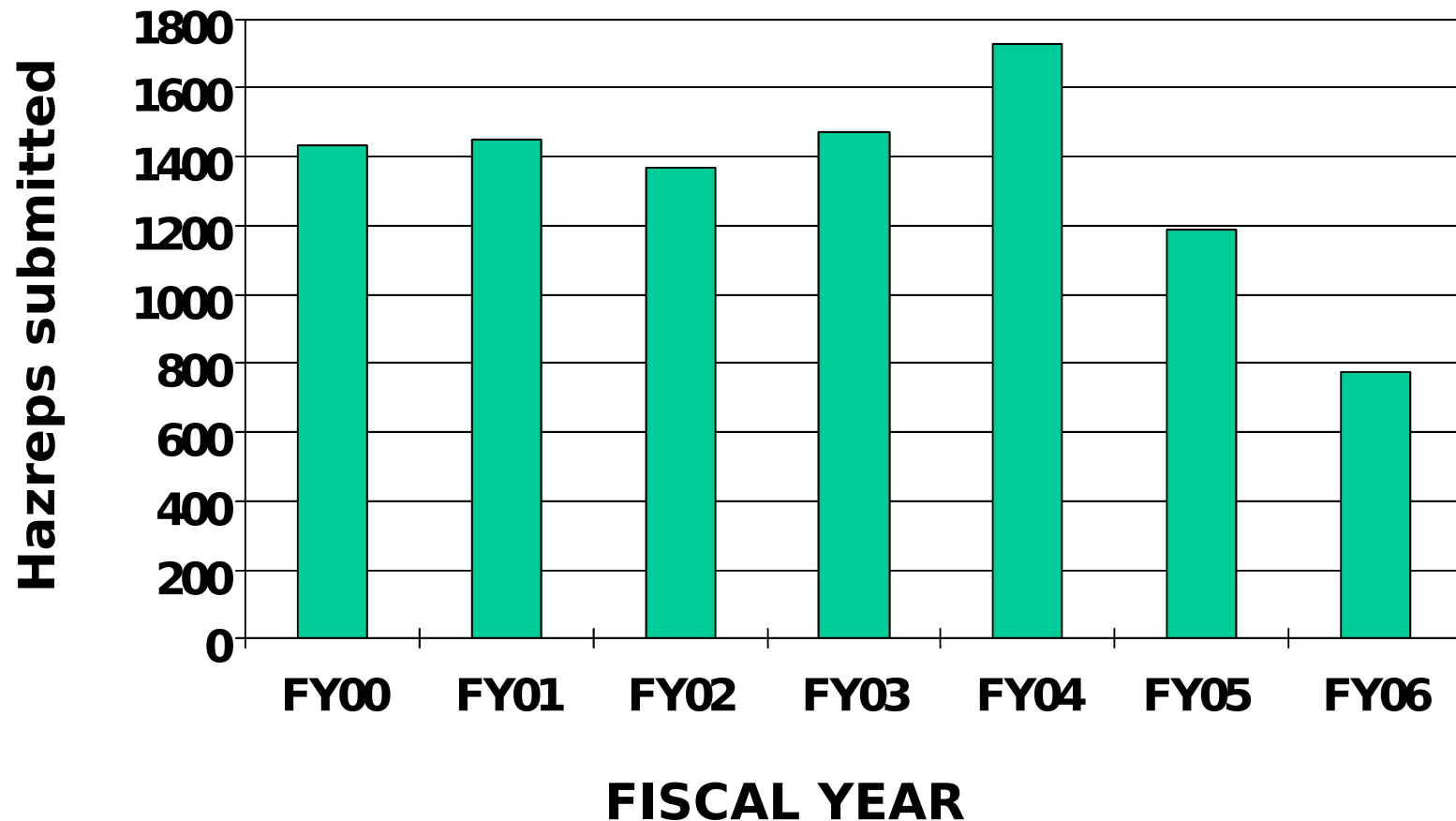
F-18 Flathatting

Tactics to Defeat the "Blue Threat"

Blue Threat **–** Action/Inaction by own forces causing losses
Blue Threat **–** Losses far exceed Red Threat losses

- **RED THREAT:**
  - 0 fatalities
  - 0 aircraft

  vs.

- **BLUE THREAT:**
  - 2 fatalities
  - 8 aircraft destroyed

THE NAVY & MARINE CORPS AVIATION SAFETY MAGAZINE

www.safetycenter.navy.mil • September-October 2006

Approach

When You look in the Mirror, Are You

The Blue THREAT?

Aviation Intervention Strategies

CSA/MCAS

Human Factors Analysis

ORM & CRM Programs

Safety Surveys

Blue Threat Counter Tactics

Fundamental Flight Skills

Culture Workshops

Technology MFOQA Smart Aircraft

Simulators
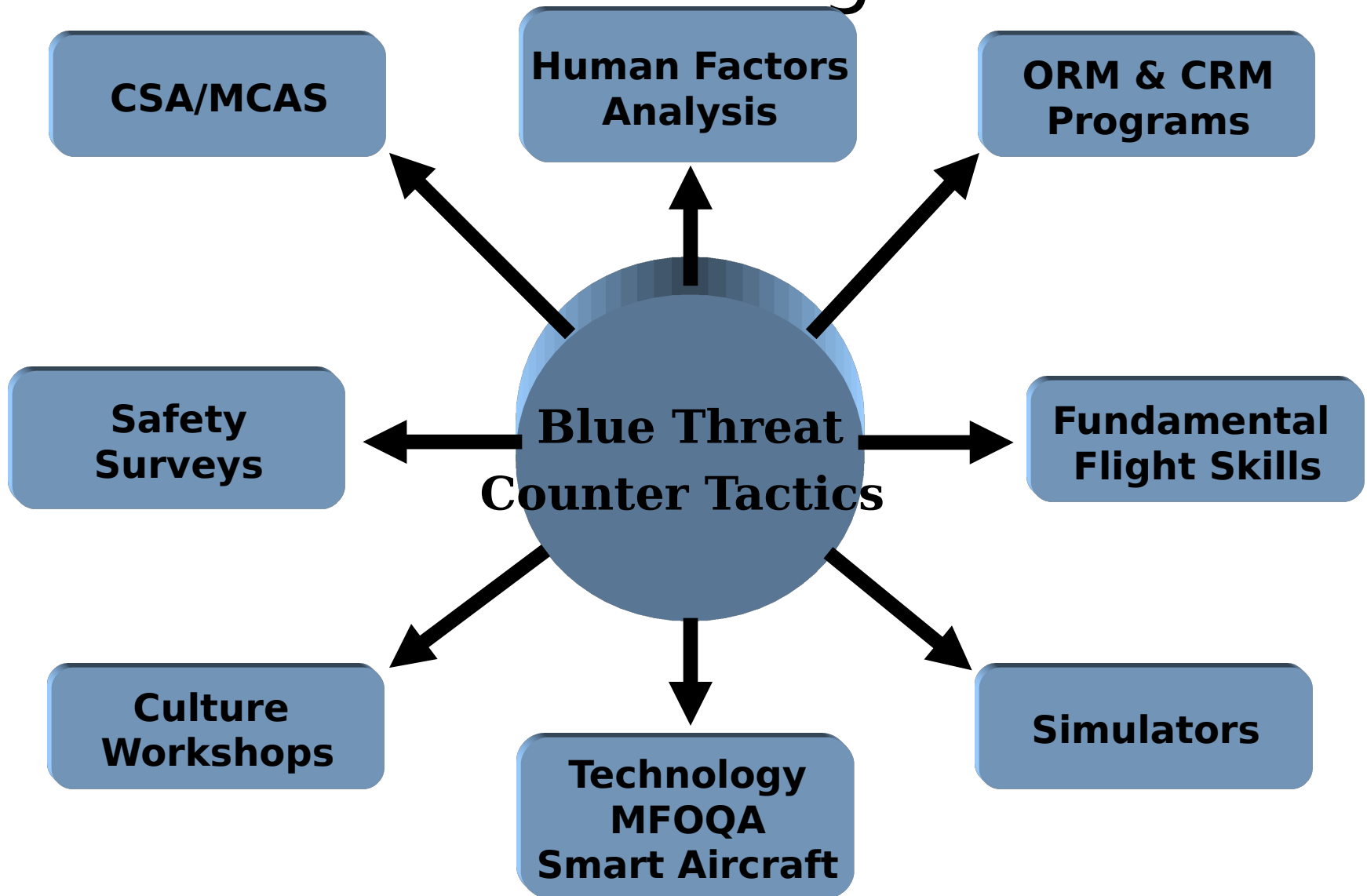
Blue Threat Analysis

EA-6B runway mishap

- Mishap flight originated in Whidbey
  - Headed to Jacksonville depot
  - Scheduled stop in Colorado Springs for fuel

- Poor weather conditions
  - Blinding thunderstorm
  - 90 degree crosswind

- Authorized divert to Buckley
  - Divert 60 miles away with perfect weather conditions
  - Chose to continue with Colorado Springs stop

- Mishap flight departed runway
  - Upon landing, plane hydroplaned and slid off runway after brakes locked up.

Blue Threat Analysis

AV-8B Approach Mishap

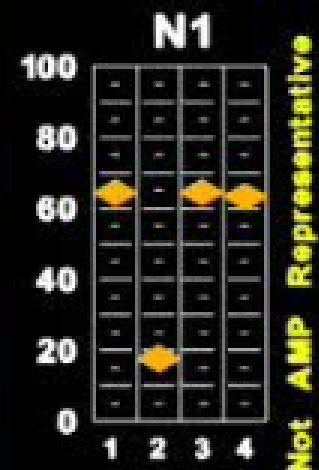Due to delays, only two flights would be accomplished.

– MCAS Cherry Point to NAS Oceana

– Oceana to Republic Airport, Long Island, NY

GPS approach not authorized

– Mishap wingman downloaded GPS approach for NY airport from civilian aviation website.
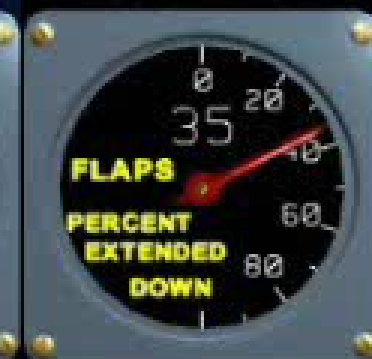
MP's aircraft departed overrun

– Continued through gravel trap, then hit ILS antenna and stopped.

N1

100
80
60
40
20
0

1 2 3 4

Not AMP Representative

Throttle   Angle
MAX

IDLE
REV

MAX
REV

Gear   Down

Feet Below PAPI G/S
474.43

Distance to go
6.197 NM

AOA

4

0
5
10
15
20

VVI
UP

DOWN
0

1
2
3
4
5
6

1
2

A/S

0
250
200

50
100
150

189

RADALT

0
1247
5

25
20
15
10

FLAPS
PERCENT
EXTENDED
DOWN

0
35
20
40
60
80
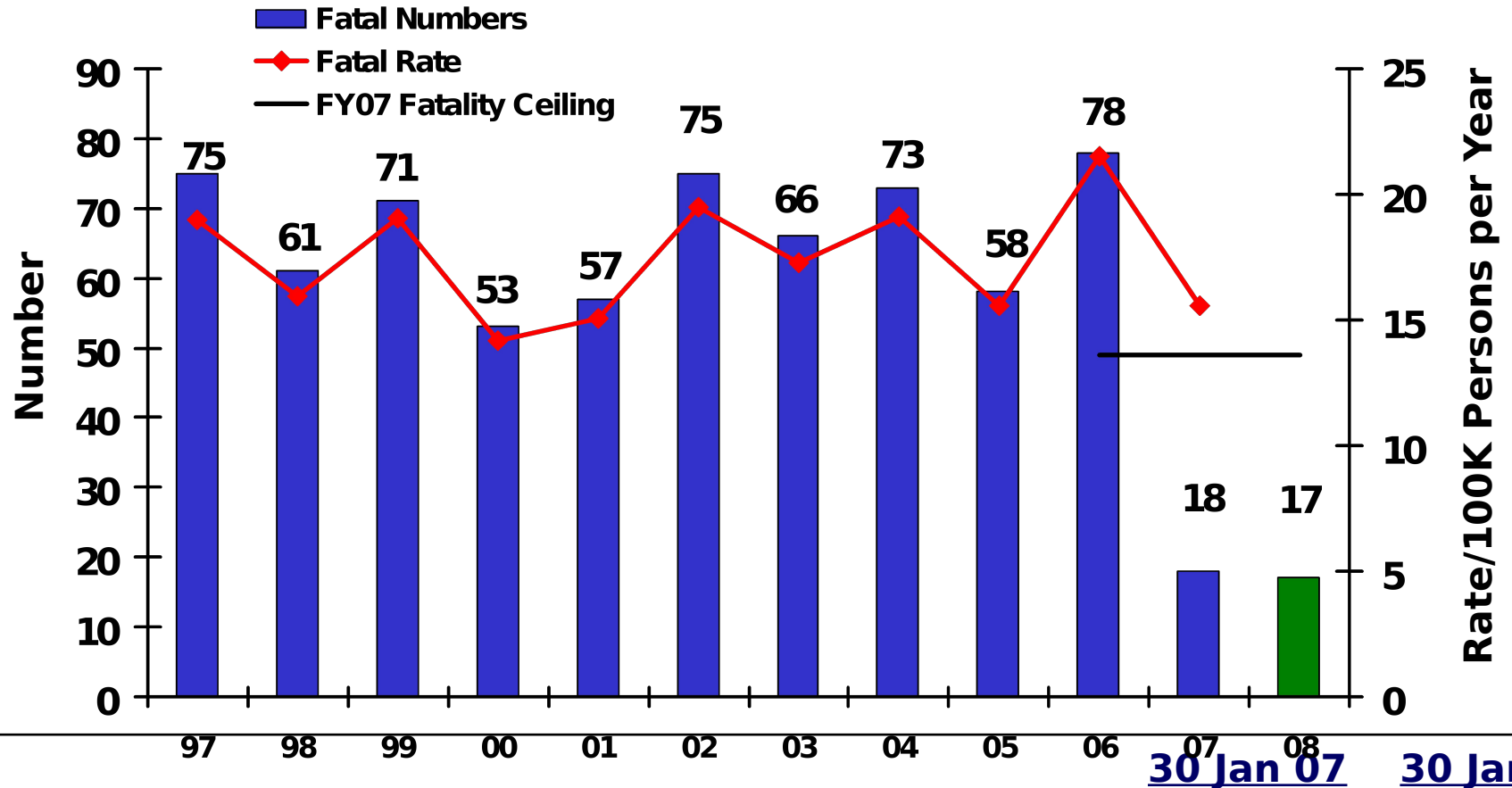
Safety Surveys on 80+ aviation commands revealed:

1. ORM implementation
2. Enlisted Safety Committees
3. Hydraulic contamination control and monitoring
4. Ready Service Lockers
5. Ordnance certification program
6. Multiple-Piece Tool accountability
7. IMRL/Calibration program
8. TD-1A/B Tie down chains are not being properly PMS'd

PMV FATALITIES

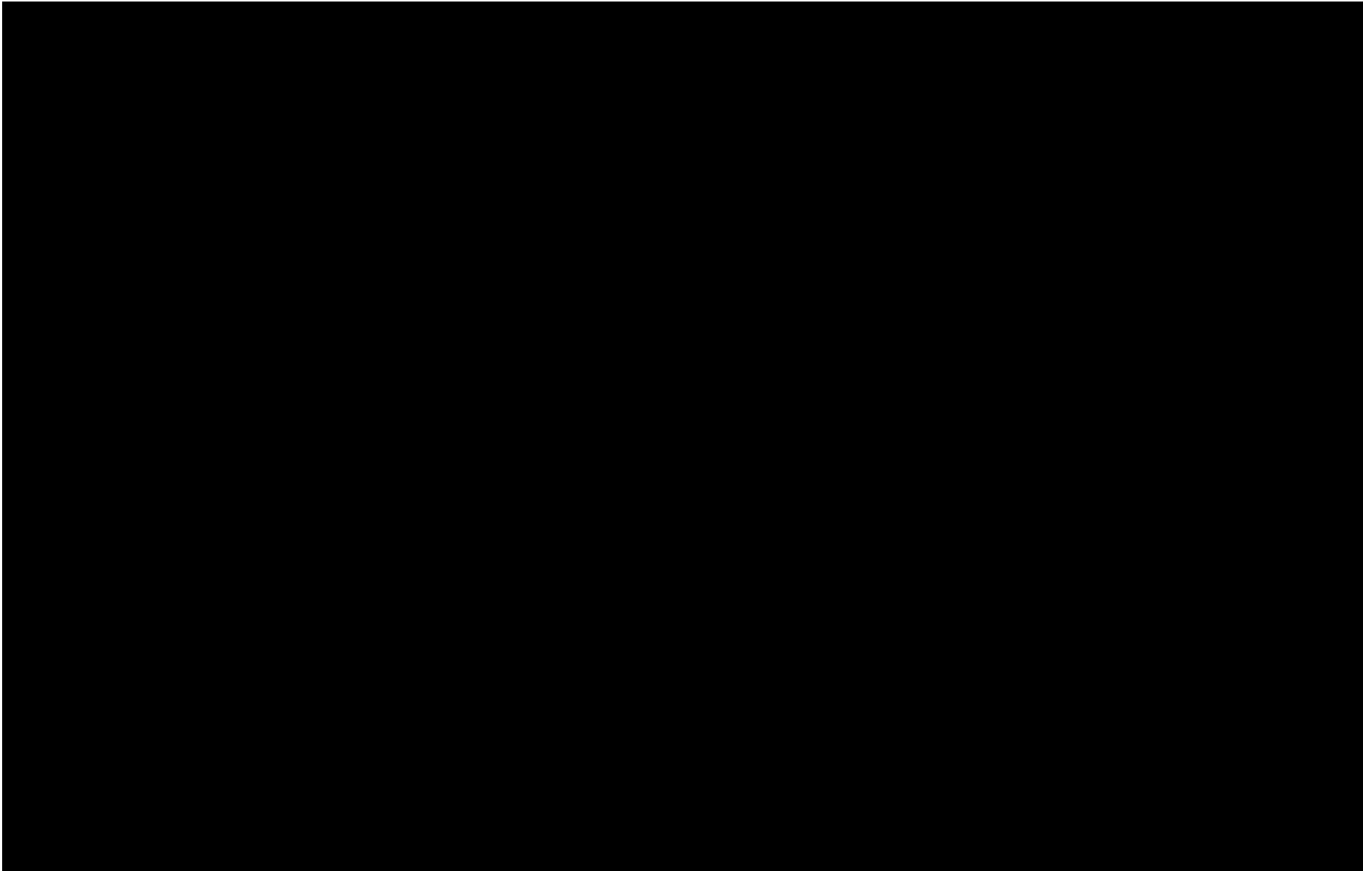CLASS A FATALITIES/FATALITY RATE FY COMPARISON: 18 / 15.55 38 / 31.67

FY06 FATALITIES/FATALITY RATE: 78 / 21.49
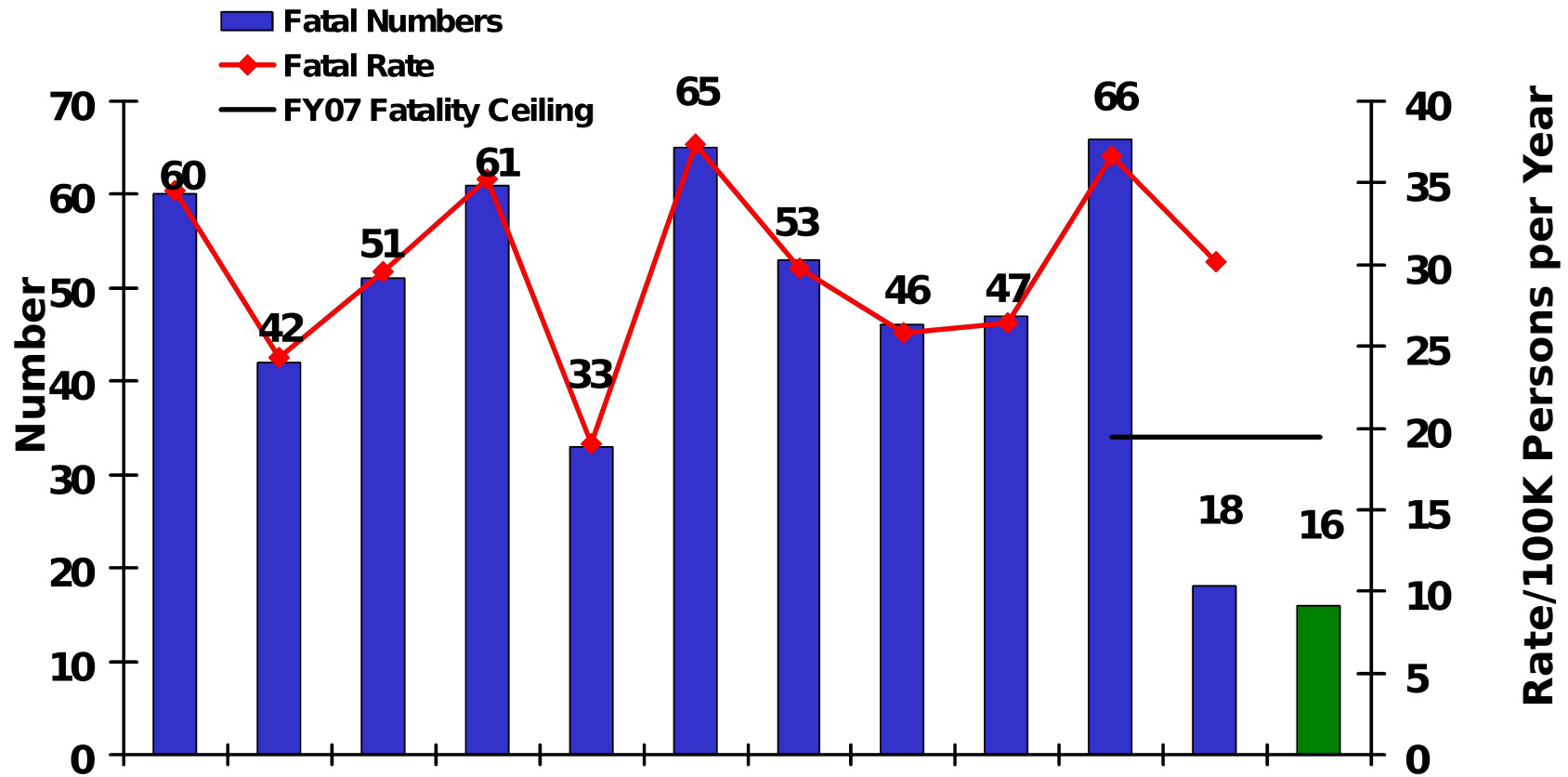10-YEAR AVERAGE (FY97-06) FATALITIES/FATALITY RATE: 66.7 / 17.61

ASC February 2007

How Close?

PMV FATALITIES

Legend:
- Fatal Numbers
- Fatal Rate
- FY07 Fatality Ceiling

Y-axis (left): Number
Y-axis (right): Rate/100K Persons per Year

Data by year:
- 97: 60
- 98: 42
- 99: 51
- 00: 61
- 01: 33
- 02: 65
- 03: 53
- 04: 46
- 05: 47
- 06: 66
- 07: 18
- 08: 16

30 Jan 07   30 Jan 06

CLASS A FATALITIES/FATALITY RATE FY COMPARISON: 18 / 30.17   23/ 38.64

FY06 FATALITIES/FATALITY RATE: 66 / 36.66
10-YEAR AVERAGE (FY97-06) FATALITIES/FATALITY RATE: 52.4 / 29.90

ASC, February 2007
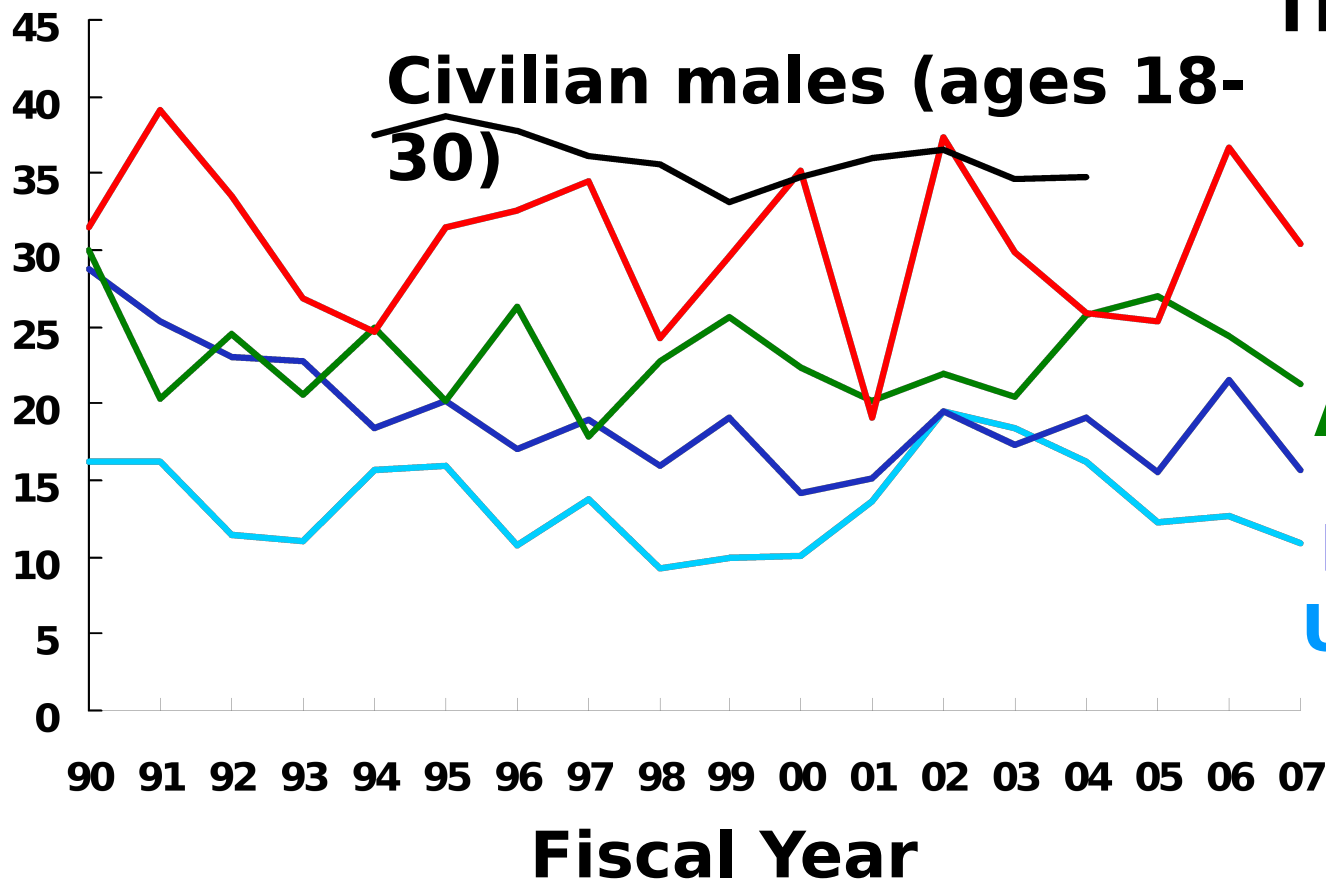
144 USN & USMC PMV Fatalities
=
7.6 USS Cole Losses

Armed Forces Traffic Fatality Rates

Through 29 Jan07

Civilian males (ages 18-30)

45
40
35
30
25
20
15
10
5
0

90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Fiscal Year

30.42 (18)

**21.29 (35)
Army**

**15.67 (18)
Navy**

**10.93 (12)
USAF**

Percentage of Force Under 26 Years

USMC = 69%

Army   = 48%

Navy   = 45%

USAF = 39%

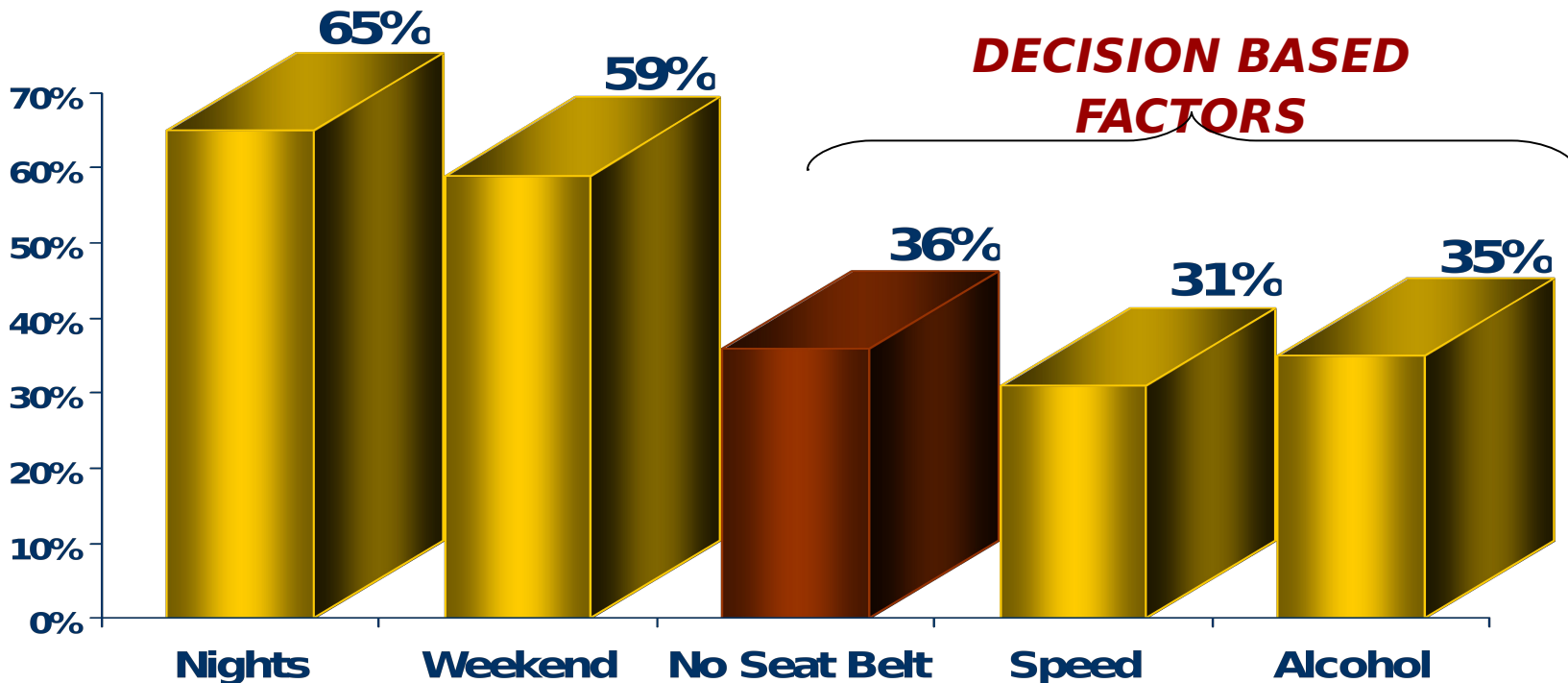**Rates per 100,000 active duty military personnel per year.**

Leading Factors in PMV Deaths

FY02 – FY06

Fatigue is considered a major factor in traffic deaths, but is <u>under-reported</u> throughout the fleet.

65% — Nights

59% — Weekend

DECISION BASED FACTORS

36% — No Seat Belt

31% — Speed

35% — Alcohol

	Nights	Weekend	No Seat Belt	Speed	Alcohol
Value	65%	59%	36%	31%	35%

70%
60%
50%
40%
30%
20%
10%
0%
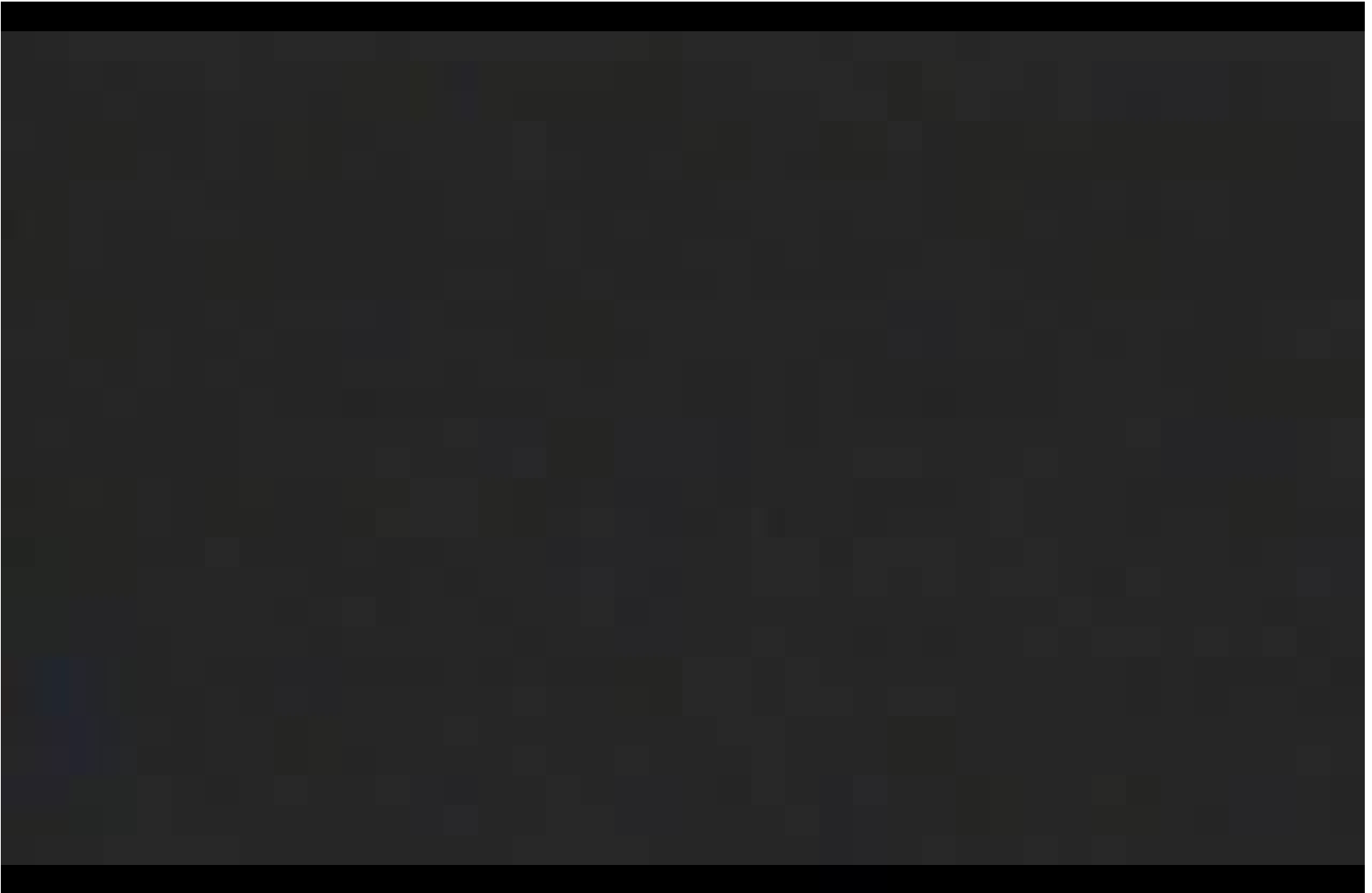
NAVSAFECEN "Friday Funnies"

- An E-5 went to a bachelor party until midnight, slept five hours, then went to work. Toiled all day, then went on leave.

- Drove 120 miles to a party and boogalooed until 3:00 in the morning. Slept for an hour on the way back, ran errands all day, met some friends for a midnight game of paintball that lasted, once again, until that magical hour of 3 a.m.

- Headed home at 4:45 a.m. Pulled over within 30 minutes to stretch and yawn.

- He then got back behind the wheel, fell asleep on a causeway, veered off the road and ran into two guard rails. His pickup truck went airborne and splashed down into the bay below.

- The Sailor came to, released his seat belt, crawled through a broken window, and swam to a pylon. Fortunately, a passing motorist had seen this drama and called emergency services.

- The sound of your vehicle crumpling into an indistinguishable wad around your suddenly wide-awake self is your last choice in an alarm clock. And spending four days in the hospital and two weeks convalescing is a dismal way to spend your two weeks of post-deployment leave.

File   Edit   View   Graphical Display   Dashboard   Model   Window   Help

Open New Save Copy Print View Event Auto Sleep Help Fatigue Facts Exit

FAST
Fatigue Avoidance
Scheduling Tool
NTI Inc. & SAIC

© 2000 - 2003

Friday workday

Bachelor party

Saturday errands

Legally drunk line

Friday night party

Paintball party

Starts drive home

CRITICAL EVENT
Starts Drive Home
04:46b

| -2 Wed 070605 | -1 Thu 070705 | 0 Fri 070805 | 1 Sat 070905 | 2 Sun 071005 | 3 Mon 071105 | 4 Tue 071205 |

Effectiveness (%)

Blood Alcohol Equivalence (%)

Work Sleep Base

0   06   12   18   00   06   12   18   00   06   12   18   00   06   12   18   00   06   12   18   00   06   12   18   00   06   12   18

Start   FAST 1.0.28U – Defaul...   Microsoft PowerPoint – [...]   2:49 PM

Best Fleet Practices – PMV

1. **Risk Management – Find out who is at risk – Help them manage that risk.**
2. **Letter home to solicit family's help to keep their loved one safe.**
3. **Traffic Safety Toolbox to provide the necessary tools to reduce mishaps.**
4. **Engage in partnerships with local community. (Click It or Ticket, You Drink, You Drive, You Lose, MADD)**
5. **Traffic Safety Across America. (Trained supervisory personnel on drinking and driving, seat belt use, PPE, speed, fatigue)**
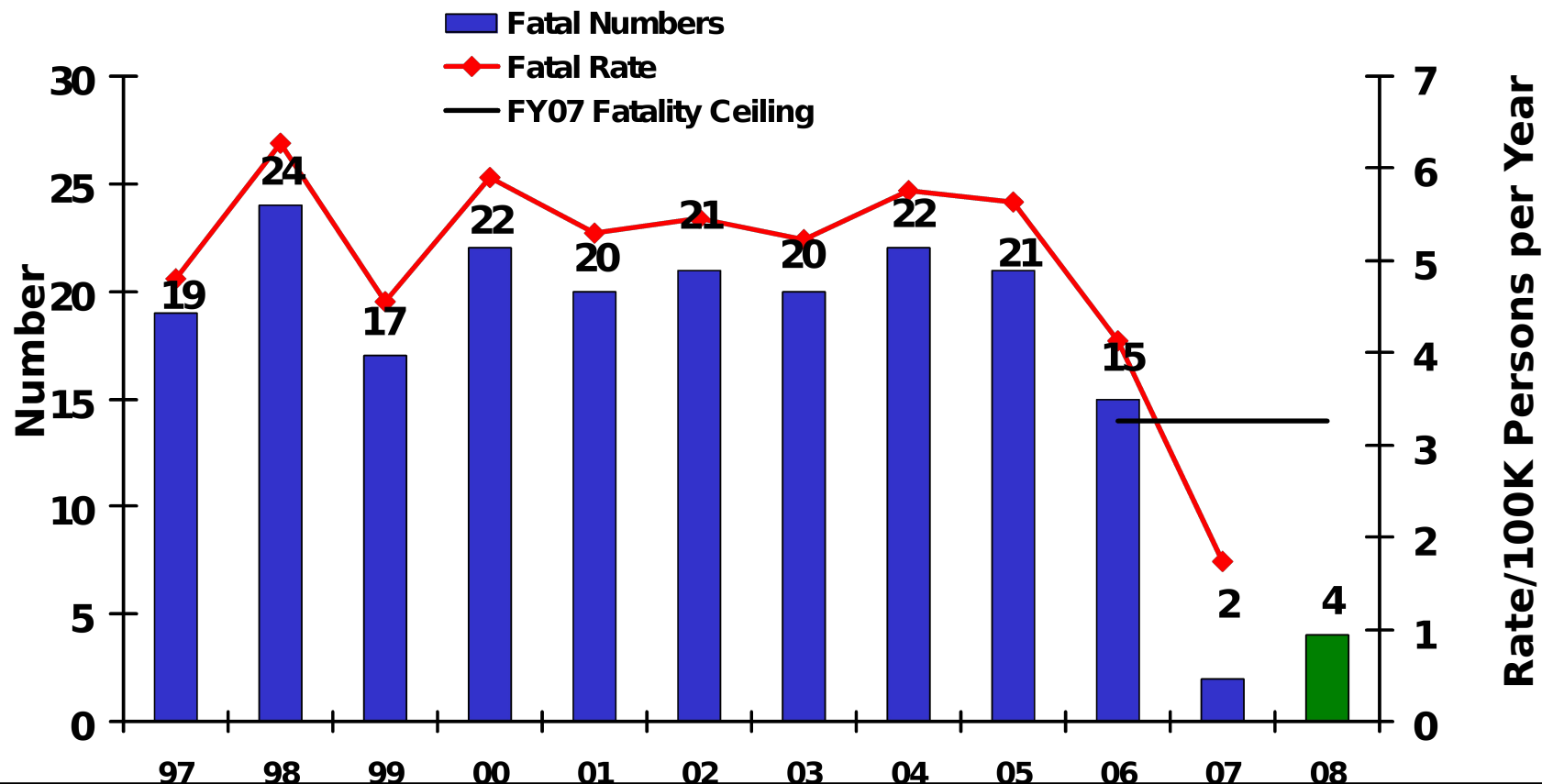6. **TRiPS**
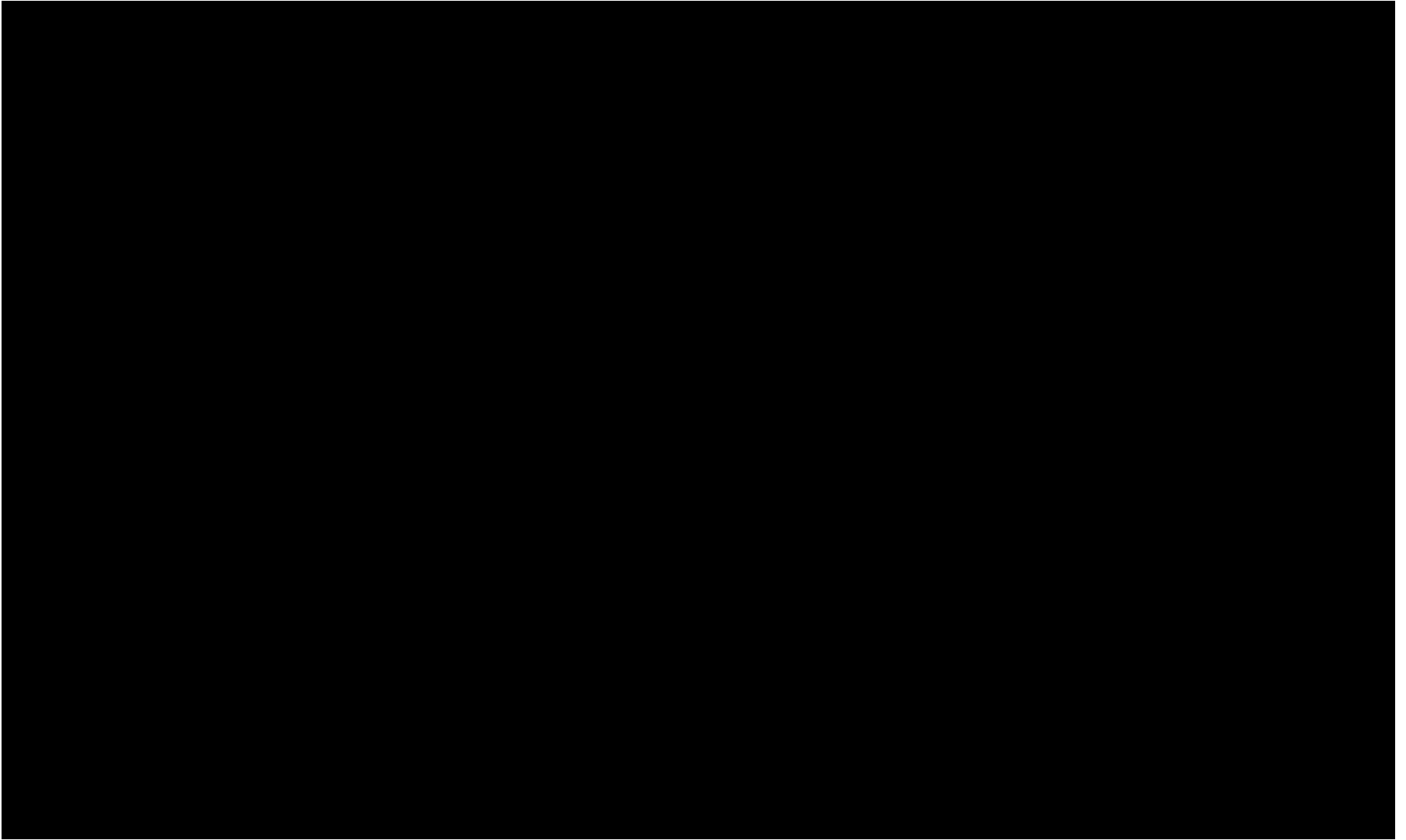
OFF-DUTY/REC FATALITIES

30 Jan 07   30 Jan 06
CLASS A FATALITIES/FATALITY RATE FY COMPARISON: 2 / 1.73   6 / 5.00
FY06 FATALITIES/FATALITY RATE: 15 / 4.13
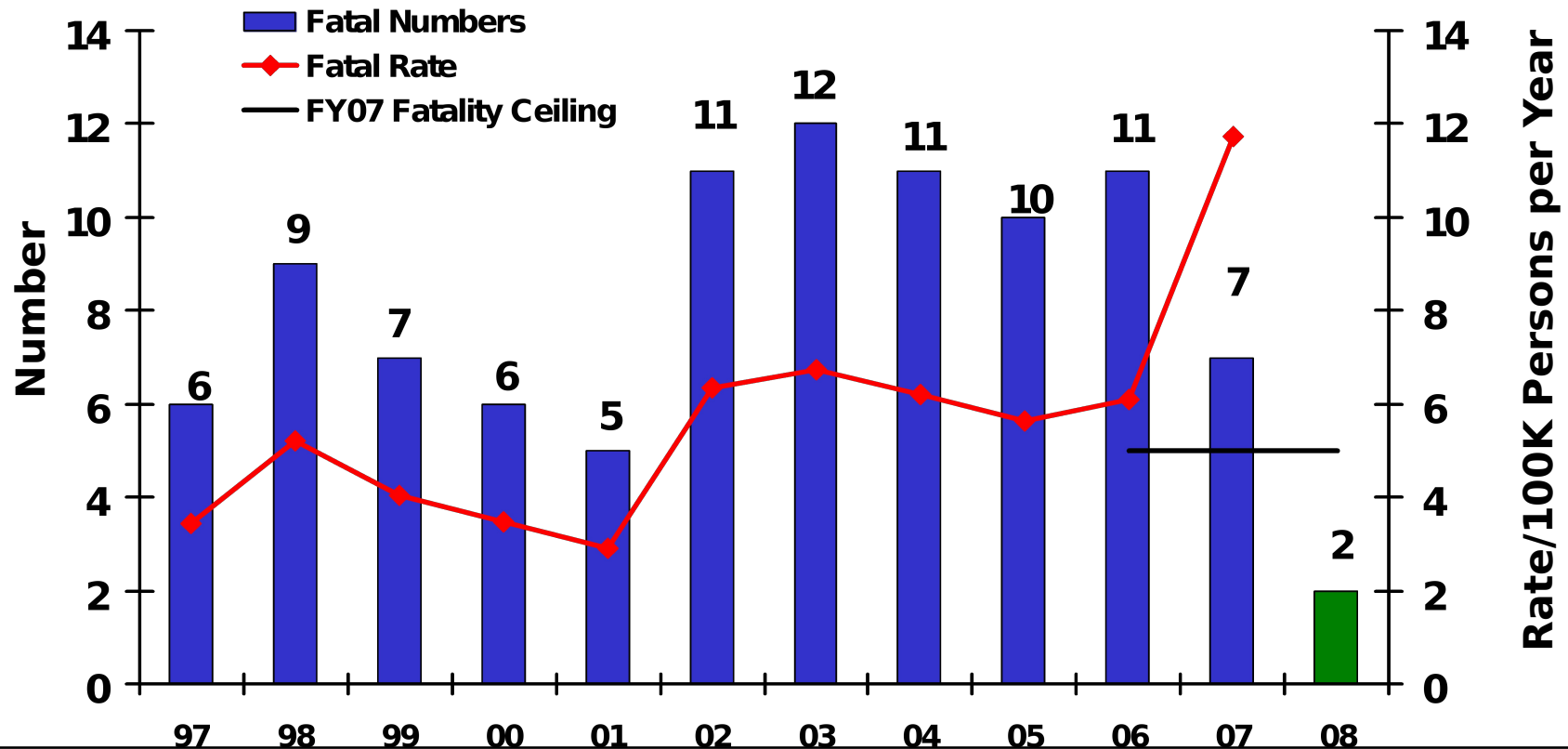10-YEAR AVERAGE (FY97-06) FATALITIES/FATALITY RATE: 20.1 / 5.31

ASC, February 2007

What Hazards Exist Here?

OFF-DUTY/REC FATALITIES

Legend:
- Fatal Numbers
- Fatal Rate
- FY07 Fatality Ceiling

Y-axis (left): Number (0–14)
Y-axis (right): Rate/100K Persons per Year (0–14)

X-axis years and Fatal Numbers:
- 97: 6
- 98: 9
- 99: 7
- 00: 6
- 01: 5
- 02: 11
- 03: 12
- 04: 11
- 05: 10
- 06: 11
- 07: 7
- 08: 2

30 Jan 07   30 Jan 06

CLASS A FATALITIES/FATALITY RATE FY COMPARISON: 7/ 11.73   2 / 3.36

FY06 FATALITIES/FATALITY RATE: 11 / 6.11

10-YEAR AVERAGE (FY97-06) FATALITIES/FATALITY RATE: 8.8 / 5.02

ASC, February 2007

Best Fleet Practices – Off-Duty Rec

1. **Commanders/Commands and supervisors engaged in Risk Management and RODS program.**
2. **<u>Individuals</u> use risk management process before participating in their leisure-time activities.**
3. **RODS Program Managers – Ensure command personnel have seasonal hazard awareness training.**
4. **Individual Off-Duty Risk Assessment Form – Assess behavior factors and indicators related to off-duty recreation mishaps.**

Navy ORM Model Manager

- Operational Risk Management – on and off duty
- NSC Spearheads the Navy's Revitalization Effort
  - Time Critical ORM is most relevant, least inculcated
- Coordinate ORM Strategy
  - **Leadership**
    - Developed Navy institutional ORM implementation model
    - Focus leadership on key ORM implementation issues
    - Recommending areas for resource allocation
  - **Education and Training**
    - Partnering with NETC on learning continuum
    - Partnering with accession commands for baseline enhancement
  - **Assessment**
    - Developing model for fleet ORM process assessment
    - Partnering with force commanders/evaluators for incorporation
  - **Feedback**
    - Instituting vehicles for status reports to force commanders
    - Instituting vehicles for Best Practice dissemination

Recommendations to Improve Safety
in Your Command

1. **Naval Safety Center Website - The Tools Are There!**

    -   **Traffic Safety Toolbox**

    -   **Web-Enabled Safety System (WESS) – Online mishap reporting / database**

    -   **Leave and Liberty Risk Assessments**

2. **Ensure a SOLID Welcome Aboard, Sponsorship/ Mentorship Program.**

    -   **First impressions are lasting ones**

    -   **On and Off duty activities must be addressed**

3. **Identify "high-risk" personnel within command.**

    -   **Ensure leadership is engaged with subordinate personnel**

    -   **Establish awareness training of high-risk activities and mentoring for high-risk personnel**

    -   **Identify motorcycle operators and confirm required training is complete**

Recommendations to Improve Safety
in Your Command

4. Do the inexpensive things at a minimum.

- Schedule a Culture Workshop / Safety Survey
- Distribute "Safe Ride" taxi cards
- Conduct pre-holiday safety standdowns
- Require leave chit risk assessments prior to authorizing leave

5. Maintain high-visibility within command.

- Establish and enforce standards– defined command safety policy
- Treat every mishap the same (PMV/Off-Duty Fatality hurts command as much as material mishap)
- Correct safety deficiencies immediately
- Hold personnel ACCOUNTABLE for failure to follow regulations

6. INSPECT for compliance

- Verify command policies are being followed
- Demonstrate daily commitment to safety
- Ensure experience level matches assigned duties

What We Can Do for You

ON THE ROAD

- **Culture workshops**
- **Unit surveys**
- **ORM unit training**
- **Mishap investigations**
- **USMC MTT seminars**
- **PCO briefings**
- **NAVOSHENVTRACEN Safety & Occupational Health Training**

AWARENESS

- **Fleet Analysis**
- **Magazines printed/distributed (473,000 copies)**
- **Interactive CD's**
- **Acquisition process in-roads**
- **Safety advisories**
- **Customer information requests (3,600+ database queries per month)**
- **Safety Center web page**

TRAFFIC RISK PLANNING SYSTEM

- TRiPS
  - Delivered to the Naval Safety Center for Fleet use in 2006; based on ASMIS-2 Army Safety Management Information System
  - A click away on **http://www.safetycenter.navy.mil**
  - Provides ORM trip assessment and actual mishap cases relevant to planned trip. Risk values/models based on NTSB data
  - Trip map, times, distances and other products improve **supervisor interaction;** CBT course content designed to help change behavior

- **ORM – Revitalization**
  - **NSC Model Manager**
  - **Common Model**
  - **Time Critical ORM**
  - **Assessions**

- **Motor vehicle mishap reduction initiatives**
  - **USN / USMC IG effort**
  - **ID high-risk Sailors / Marines**
  - **DUI / DWI NJP guidance**
  - **Driver-training continuum**
  - **Motorcycle training**

- **Executive Safety Board**
  - **USN / USMC**

- **WESS Upgrades**

NSC Website: Your Valuable Resource

****

www.safetycenter. navy.mil

ASC Februa

Navy Mishap Free Squadrons (FY-06)

HC-11   **HC-85**   **HS-2**   **HS-3**
HSC-22 **HSC-26**   **HSL-42**   **HSL-60**
HSM-41 **HX-21**   **VAQ-136 VAW-113**
VAW-115 VAW-121 **VAW-122 VAW-124**
VAW-125 VAW-126 **VAW-77   VAW-78**
VFA-132 VFA-15   **VFA-204 VFA-213**
VFA-31 **VFA-32**   **VFA-87   VP-1**
VP-62   **VPU-1**   **VR-24   VR-46**
VR-48   **VR-52**   **VR-54   VR-55**
VR-58   **VR-59**   **VR-62   VR-64**
VS-24   **VT-3**   **VT-35   VT-4**
VT-9   **VX-1**   **VX-20   VX-30**
VXS-1   **VAW-120 HELTACTWING, LANT**

NAVAIR CLASS A/B FY06 MISHAP RMV/ROD

Questions?